

## Replacement Instructions

# hp StorageWorks MSA1500 cs Fibre Channel I/O Module

*These instructions apply to the MSA1500 cs product family. The part may also be used in other HP products. Please refer to documentation for your specific product for detailed replacement instructions.*



If the product in which this part is being replaced is still under HP warranty, then the replacement part(s) referred to in these Replacement Instructions is provided under the terms and conditions of the Hewlett-Packard Company Limited Warranty for that product. A copy of this Limited Warranty may be viewed at:

<http://h18006.www1.hp.com/products/storageworks/warranty.html>

If this is a trade sale part (product out of warranty), then the replacement part(s) referred to in these Replacement Instructions is provided under HP's express limited warranty statement, which may be viewed at:

[http://customerops.corp.hp.com/1sw/pdm\\_om/warranty\\_support/policies/2330100.doc](http://customerops.corp.hp.com/1sw/pdm_om/warranty_support/policies/2330100.doc)

The replacement part takes on either the Limited Warranty Period of the part being replaced or a ninety-day period that begins upon installation of the replacement part, whichever is greater.

The information contained on these replacement instructions is subject to change without notice. The only warranty for this replacement product is as noted above. Nothing in these replacement instructions should be construed as constituting an additional warranty. The information provided in these replacement instructions is provided "AS IS" and HP is not liable for technical or editorial errors or omissions contained herein.

© Copyright 2004 Hewlett-Packard Development Company, L.P.

Please note that this document is protected by federal copyright law and that no part of this document may be copied, reproduced or translated without the prior written consent of Hewlett-Packard Development Company, L.P.

Printed in Singapore.

## MSA1500 cs Fibre Channel I/O Module Replacement Instructions

First Edition (April 2004)

Part Number: 361697-001



361697-001

## About this document

This document details the procedures for replacing a failed MSA1500 cs Fibre Channel I/O module in HP StorageWorks Modular Smart Array (MSA) storage systems.

## Verifying component failure

Before replacing the Fibre Channel I/O module, use the following methods to verify the component failure.

- Check the controller LCD for one of the error messages listed in Table 1.

Table 1: LCD Error Messages

No.	Message
515	FIBRE DEVICE HARDWARE FAILURE
516	FIBRE SUBSYSTEM LINK FAILURE

- The status LED on the rear of the Fibre Channel I/O module is not illuminated or is flashing amber ❶.
- The 1-GB LED is flashing amber ❷.
- The 2-GB LED is flashing amber ❸.

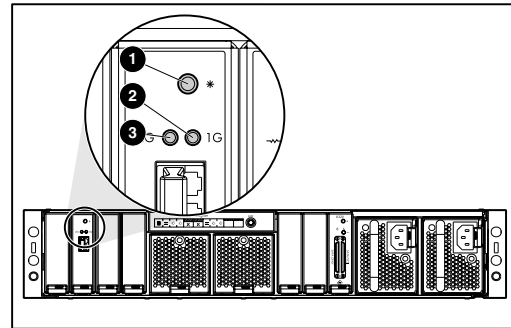


Figure 1: System fault indicator

## Before you begin

Read the following cautions and information before beginning removal and replacement procedures.

## Laser precautions



**WARNING:** To reduce the risk of injury from laser radiation or damage to the equipment, observe the following precautions:

- Do not open any panels, operate controls, make adjustments, or perform procedures to a laser device other than those specified herein.
- Do not stare into the laser beam when panels are open.



**Caution:** Be sure the replacement part is available before removing the failed component. Removing a component impacts cooling within the enclosure.



**Caution:** Parts can be damaged by electrostatic discharge. Use proper anti-static protection. Refer to the documentation that shipped with your system for additional information.



**Caution:** It is important to follow these instructions when replacing components in the MSA. If the procedure is done improperly, it is possible to lose data or damage equipment.

**Note:** Before replacing a controller it is important to stop all system access (e.g. application, system I/O or RAW device file path/s) to the device.

## Step 1: Removing the SFP transceiver

### Laser precautions



**WARNING:** To reduce the risk of injury from laser radiation or damage to the equipment, observe the following precautions:

- Do not open any panels, operate controls, make adjustments, or perform procedures to a laser device other than those specified herein.
- Do not stare into the laser beam when panels are open.



**Caution:** Use appropriate precautions when handling Fibre Channel cables:

- Touching the end of a Fibre Channel cable will either damage the cable or cause performance problems, including intermittent difficulties accessing the storage.
- Whenever a Fibre Channel cable is not connected, replace the protective covers on the ends of the cable.

1. Press the release clip on the left of the cable connector to remove the Fibre Channel I/O cable from the back of the failed transceiver.
2. Pull the release tab on the transceiver and pull the transceiver straight out of the device.

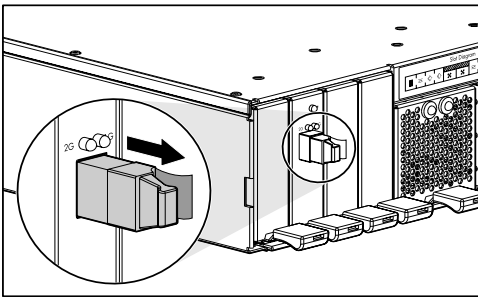


Figure 2: Removing the SFP

### Step 2: Removing the module

3. Lift the port-colored Fibre Channel I/O module latch ❶ and pull the I/O module out of the enclosure ❷.

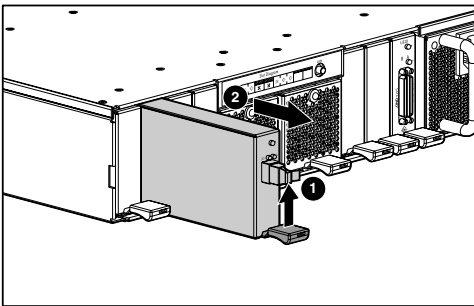


Figure 3: Removing the Fibre Channel I/O module

### Step 3: Replacing the SFP transceiver

1. With the plastic tab facing to the right, insert the transceiver straight into the device.

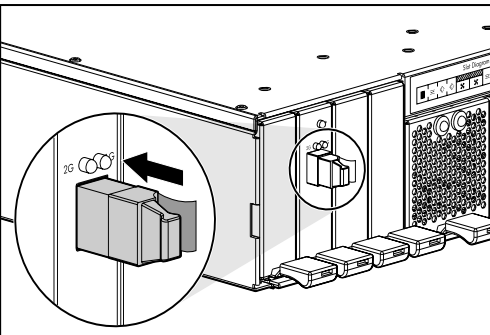


Figure 4: Installing a SFP

2. Remove the dust cover from the SFP.

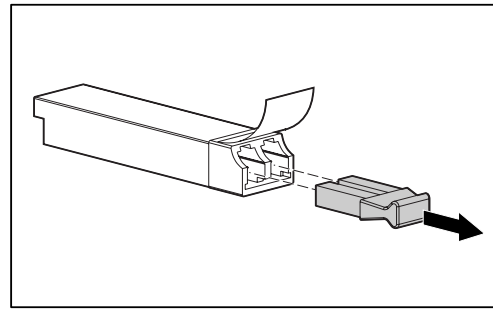


Figure 5: Removing the dust cover from the SFP

3. Insert the Fibre Channel I/O cable, with the clip side to the left, into the transceiver. The cable should snap into place.



**Caution:** To reduce the risk of damage to the equipment, do not use excessive force when inserting the transceiver.

## Step 4: Installing the module

To install the Fibre Channel I/O module, slide it into the bay until the module clicks into place.

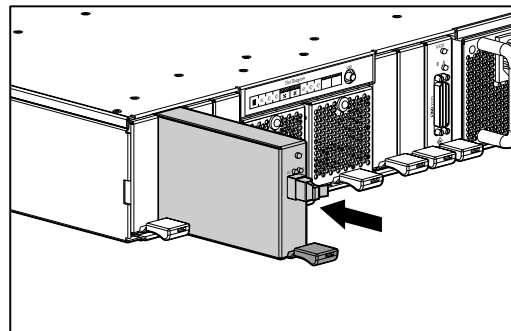


Figure 6: Installing the Fibre Channel I/O module

### Verifying the replacement

After replacing the failed Fibre Channel I/O module, verify that:

- No error messages are displayed on the LCD.
- The status LED is solid green.
- The 1-GB LED is solid green.
- The 1-GB LED is solid green.

### Returning the failed component

Please follow the return instructions provided in the replacement component package.

### Additional information

For additional information, refer to the MSA technical documents web site at <http://www.hp.com/go/msa1500cs>.